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In our feature article for this issue of the *Gazette*, Suzanne Wray provides a look at the sorts of visual entertainments available to "mill girls" and other workers in New England textile mills in the early to mid-19th century. These included magic lantern shows, dissolving views, dioramas, and moving panoramas. Although her article focuses more on moving panoramas than on magic lanterns, she provides new information on the types of audiences that attended all types of visual spectacles. Some of the venues used for display of moving panoramas were exactly the same ones later used for stereopticon exhibitions, including John Fallon's stereopticon in the 1860s.

This issue also includes a number of pages of Research Page material, summaries of recent scholarship related to the magic lantern in academic journals. Most of this material comes from a special section in *Fonseca*, a Spanish journal of communication. Much of the work is by Spanish scholars, with a special focus on the use of magic lanterns in education. This work reveals some interesting new information, such as the use of phantasmagoria lanterns, which we tend to associate with the beginning of the 19th century, well into the late 19th century in Spanish universities. The journal is published online and is open access, so all readers of the Gazette can read the papers, which are available in both Spanish and English.

To round out the issue, I have contributed a short article on the free medical lectures of Dr. J. Alonzo Greene, one of several physicians-turned-lecturers who used free stereopticon lectures to attract patients to their practices, or in Dr. Greene's case, to entice audience members to purchase his patent medicine. Stereopticon lectures were just one part of an extensive advertising campaign that included free pamphlets, a magazine, an almanac, and saturation advertising of his product in city and small town newspapers thoughout the country.

Suzanne Wray has already prepared another article for the fall issue of the *Gazette*. I hope other society members and magic lantern scholars will follow her example and contribute some of their own work to our journal.

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Pacific Mills in Lawrence, Massachusetts, one of many New England textile mills that employed the young daughters of local farmers as workers, the so called "mill girls." They formed a substantial part of the audiences for magic lantern shows and moving panoramas exhibited in the cities that grew up around the mills. Wells collection

Amusements After the Twelve-Hour Workday

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The girls in all manufacturing towns are fine creatures for exhibitions. Their sedentary lives, and their many privations, render anything in the shape of amusement a glory to them, and the satisfaction they receive upon all and every occasion, especially when they are escorted by their beaux, and what pretty girl is without them, renders their company as profitable to the exhibition as it is pleasant to themselves.[1]

Those words were written by showman P. T. Barnum some years after he toured New England with Joice Heth, a black slave woman he represented as being George Washington's nurse, and 161 years of age. The tour had included the manufacturing cities of Lynn, Massachusetts, known for shoes, and Providence, Rhode Island and Lowell, Massachusetts, both known for cotton textiles.

A great deal has been written about Lowell and its mill girls, much of it focused on the intellectual accomplishments of the young women despite their long workdays. The mill owners exploited the publicity value of the mill girls, crediting the workers' high moral character and intelligence to the superior working conditions they provided. There are reports of girls filling halls to hear evening lectures, and taking careful notes, but rarely any mention of the young women attending other entertainments.[2] Yet New England, like the rest of country, was full of traveling showmen eager to find an audience for their "shows." Newspapers in textile towns advertised concerts, panoramas, and dioramas, and the textile workers must have formed a large part of the audience.

The New England Textile Industry

The textile industry had expanded rapidly in the United States, primarily due to technological advances. Until the invention of the cotton gin by Eli Whitney, seeds had to be removed from the raw cotton by hand. Whitney's hand-cranked machine separated the seeds from the lint much more quickly, increasing production. Demand for cotton grew as the technology to spin and weave the fiber developed, and the steamboat developed to transport it. By the 1850s, America grew three-quarters of the world's supply of cotton, and most of this was shipped to England or New England to be manufactured into cloth. In the South, more and more land was given over to the growing of cotton, increasing the demand for slave labor, and making slavery more profitable.

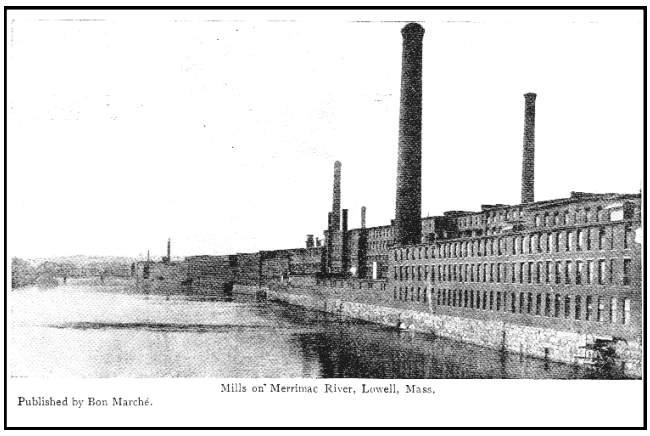
Shuttle, bobbins, spool used in textile manufacture.
Author's photo.

New England had swift-running rivers with falls or rapids to provide waterpower for manufacturing purposes: water was dammed up before flowing down raceways and flumes to power mill sites-grist mills, sawmills, forges, and others. Each mill was allocated a certain amount of water, and water rights were highly contested.

The War of 1812 stopped trade with Britain, and cotton mill fever seized America as textile manufacturing became more profitable. Mill buildings were erected near waterpower, often in areas with no previous settlement. Workers were needed, and housing for the workers. In the Blackstone Valley of Rhode Island, smaller mill villages were built, and the "Rhode Island system" hired entire families hired to work in the mills. Yarn was produced in "manufactories" and

"put out" to handloom wearers to be woven into cloth.

Linen, and wool had been, of course, spun into yarn, and woven into fabrics long before the textile mill put some or all of these processes under one roof. Spinning and weaving were done at home, mostly by women, with domestic cloth filling local needs, while finer fabrics continued to be imported from Europe. Water-powered spinning machinery and power looms were developed in England, and the technology was brought to America by recent immigrants, or, in some cases, acquired by industrial espionage. Although the processing of wool is somewhat different than that needed for cotton, similar improvements in technology made it possible to mechanize the production of woolen yarn and cloth in factories.



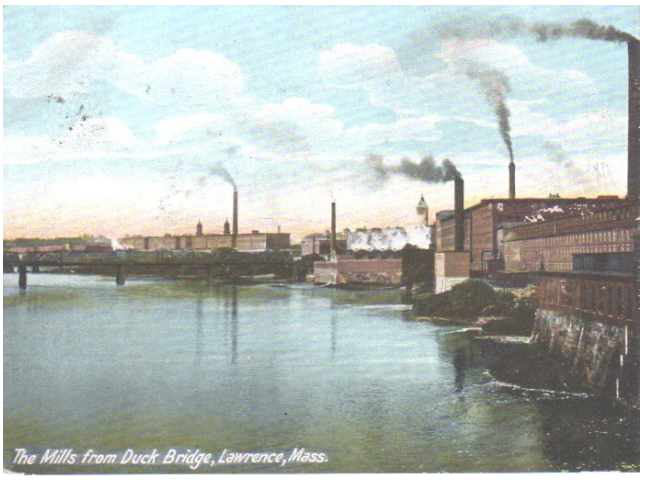
Lowell mills. Author's collection.

The Boston Associates, a group of wealthy merchants and businessmen, built a mill in Waltham, Massachusetts that utilized power looms. The Waltham profits, with dividends in the first decade nearly 19 percent a year, encouraged others. The Waltham system, as it came to be known, differed from the Rhode Island system: the mills were larger, with all processes from unpacking raw materials to packing finished cloth under one roof. Early power looms produced limited fabrics: coarse plain shirting and sheeting. But they produced these fabrics in a quantity that greatly reduced the cost: fabrics that cost 30 cents a yarn in 1816 cost only 13 cents a yard a decade later. The Associates developed textile machinery and opened machine shops to build machinery for other companies as well as their own. Their engineers improved the water turbine, which was much more efficient than the huge water wheels that originally powered the mills.

The Boston Associates created the city of Lowell in Massachusetts, their showpiece. Quietly buying up land and the existing Pawtucket Canal, they began construction

Women tending power looms in a textile mill.

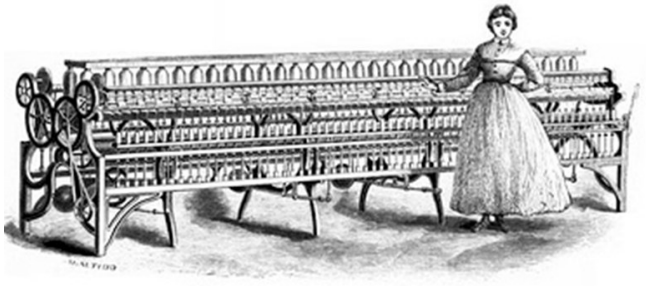
in 1822. The canal had been built in the 18th century to allow barges to pass around the falls and rapids, and engineers would transform it into a flume delivering water to several mill sites, while the new Middlesex Canal would provide access to Boston, allowing the delivery of raw materials and groceries to Lowell, and finished cloth to Boston. The city was planned by hydraulic engineers: a subsidiary corporation of the Associates was put in charge of leasing water rights, and building mills and machinery. The Associates built mills in Manchester, New Hampshire; Chicopee and Taunton, Massachusetts; and York, and Saco, Maine, helping to bring about a concentration of the textile industry in New England: by 1860 New England made 75 percent of the cloth and 68 percent of the cotton products in America. Not only was the average New England mill about twice as large as those in other areas, it was more productive.[3]



Lawrence, Massachusetts Mills. Author's collection.

As at Waltham, the daughters of Yankee farmers were solicited to come work in the Lowell mills. By 1833 nineteen five-story mills were in operation, and the population had grown to 12,000. Five thousand of these worked in the mills, and 3,800 were girls and women. Tens of thousands of young, single women, most between the ages of 15 and 30, left their homes on New England farms to work in factory towns. They were from large families, averaging more than seven children; often their sisters or other family members were already working in the mills.

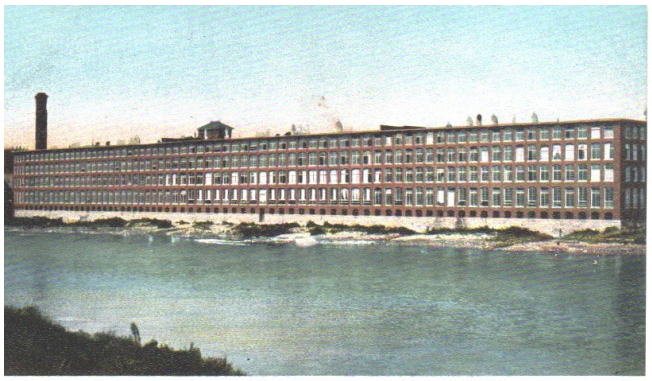
The expansion of woolen mills increased the amount of land used to raise sheep in New England, and the factory production of both wool and cotton took away work that had been done by women on the farm. It was rarely poverty that drove these young women to the mills; they were generally from neither the very rich nor the very poor farm families. Domestic service and teaching were the two alternatives then open to women; domestic service did not appeal to many, and teaching often paid less than factory work. Employment in the textile industry gave women the opportunity to earn cash wages, something they did not see on the farm. Some sent money to their families, others saved for a dowry; most seem to have spent their earnings as they chose. Most did not plan to stay in the mills long: their agreement with the corporation required them to stay one year, and give two weeks notice before leaving. On the average, women worked for five and a half years, often working for a period of time, and then going home for a stay before returning to work.



Textile worker at a spinning frame.

The women were required to live in company-owned boarding houses, where room and board cost about $5 a month. Bedrooms usually contained three beds, and the girls slept two to a bed. The possessions of the six to eight girls took up most of the space in the rooms, so they were crowded, not well ventilated, and without privacy. But most of the women had probably lived in similar conditions at home on the farms.

Their work in the mills was repetitive: mill girls tended spinning frames or looms, prepared warps for weaving. They were familiar with spinning and weaving, but here the work was done by machinery. There were moving belts, moving parts, and the machinery was so noisy that workers learned to lip-read or developed a sign language. Hours were long: in 1845, for example, they ranged from a little over 11 hours a day in the winter to over 13 hours in the summer. Starting times varied with the season to use the maximum natural light available, with the mills lit by oil lamps in the evenings. Cotton yarn would break easily if it dried out, so windows were nailed shut, even in summer, and sometimes steam was sprayed in the air to maintain the proper humidity. The heat could be suffocating, and many workers developed lung diseases, and standing for so many hours contributed to health problems. In the early years, the work was relatively undemanding, but improvements in technology and the desire for profits led to "speed ups" in machinery, with workers required to work faster and tend more spinning frames or looms without an increase in pay. The workday on the farm had been a long one, too, but in the factories the work was more repetitive and much more closely regulated.



Amoskeag Mills, Manchester, NH. Author's collection

Education and Entertainment for Textile Mill Workers

In the early 1800s, Lowell was a destination for foreign travelers, who were fascinated by the mill girls, and by how much the American factories differed from the "dark, Satanic mills" of England. Lowell and its "mill girls" also fascinated Americans. Sensational novels featuring mill girls, attempted seductions, and melodramatic plots were popular. *The Mill Girls of Lowell, or, Lights and Shadows of Factory life! With Mysteries of Lowell, Dover, Nashua, and Manchester* was the title of a play presented in 1849 at the National Theatre. The broadside shows a group of young women, who are not tending machinery. The characters include a "man of Intrigue, in search of novelties either in Wine or Women," and beautiful

Textile mill workers with shuttles. http://faculty.uml.edu/sgallagher

factory girls. The scenery shows views of Lowell and the Lowell Depot, as well as views of machinery and operatives in the Middlesex Mills, and a boarding house.

"Did you ever go into Lowell, Oh! Racket,
Good Lord what a buzzing it makes,
Like fifty live crabs in a bucket,
And what a darned sight of cotton it takes"

. . . reads a poem on the handbill, which also contains the immortal words, "the plot thickens."[4]

"The evening is all our own," wrote one mill worker, while another commented, "the time we have is our own...when finished we feel perfectly free, till it is time to commence it again."[5] But there was not much free time. The workday averaged twelve and a half hours. Bells signaled the start and end of the workday and break times; it was not beneath management to adjust the timing of the bells to lengthen the workday, for very few workers owned watches. Work began at 5 in the morning, with brief breaks for workers to walk back and forth between their boarding houses and the mills for breakfast and dinner. One historian estimates that this could have taken a total of two hours a day. If workers allowed eight hours for sleep, they had no more than an hour or two a day for themselves.[6] Work ended at 7 in the evening, and most entertainments began at 7:30 or 8:00, leaving little time for the workers to eat dinner if they wished to attend. Doors of the company's boarding houses were to be locked at 10pm, according to the corporation's rules. The length of entertainments may have been adjusted to allow for the curfew, or perhaps the rules were not always stringently enforced. The cost of entertainments seems to have been adjusted for Lowell also, and perhaps other towns with large populations of textile workers. Some shows offered tickets that would admit eight women for $1, a 50 percent discount. Most panoramas and dioramas charged 25 cents to 50 cents admission for adults, and half that price for children, but in Lowell one showman advertised, "in accordance to what is understood to be the custom in this city, the price of admission will be reduced to 12 ½ cents, without distinction of age."

New England in general did not approve of amusements, and the theater in particular was frowned upon. In 1838, Nathaniel Hawthorne wrote of a village that had decided not to license any public exhibitions: "The scruple is that the factory-girls, having ready money by them, spend it for these nonsenses, quitting their work."[7] When the push for a ten-hour day began, clergymen supported the mill owners in their opposition: "the time that would be saved to the operatives, would be spent in vanity and wickedness—in loafing around town, and cutting up all manner of shines!"[8]

As a result, advertisements often promised "moral" and "rational" entertainments, to convince the public of their respectability. The "museum," unlike the theatre, was considered an acceptable venue. Most cities had a "museum" with a collection of natural history specimens, paintings, sculpture, wax-works, and curiosities. And museums had a "lecture room," where dramas, ranging from Shakespeare to lurid melodramas, were presented. The Lowell Museum's lecture room seated 1,000. In 1846 when the Lowell Museum was preparing to reopen, the proprietor, Mr. N.F. Gates advertised in the Lowell *Courier*:

> Believing an orderly and well-regulated Museum, in connection with some moral and rational Evening Amusements would be approved and sustained by the intelligent, liberal, and discerning public he pledges himself to spare no pains nor expense to make the Lowell Museum a place of both innocent amusement and instruction, every way acceptable to the people of Lowell and deserving of their patronage and encouragement.[9]

In addition, every city at the time had at least one "hall" that could be rented for lectures or "shows": in addition to City Hall, there might be Mechanics Hall, Temperance Hall, Odd Fellows Hall, church halls, and private halls or "rooms." In the mill town of Lawrence, Massachusetts, Pacific Mills even built "an elegant lecture hall" seating 900 for lectures, musical entertainments, panoramas, etc. It was not usual for a company to do this, but the superintendent of Pacific Mills was John Fallon, an English dye chemist and one of the best educated men in Lawrence. In addition, he was the owner of a magic lantern, or Stereopticon, which was exhibited by various showmen throughout the Northeastern United States.[10]

A young woman named Susan Brown spent the first nine months of 1843 in Lowell's Middlesex Mills as a weaver.[11] Born in New Hampshire, a farmer's daughter, she had taught school for a time before going to work in the mills at age 18. Atypically, she boarded at first with a local family rather than in a company-owned boarding house. Her wages were not sent home to her family: she spent them as she chose.

Susan Brown kept a diary. The entries are very brief, but give a glimpse of how a "mill girl" spent her time outside the mill, and of some of the "amusements" she saw. Unfortunately, she wrote nothing more than the name of these amusements, and left us no record of her reactions.

Shopping was one popular activity: Susan wrote in her diary of her purchases, and the prices paid: she bought a bonnet, a shawl, gaiters, and yard goods for dresses. Observers of Lowell spoke of the throngs of young women out shopping in the ninety stores downtown. In the evening hours, peddlers were sometimes allowed into the parlors of boarding houses, giving another opportunity to make purchases.

Susan attended a different church each Sunday, and briefly noted her feelings about each service. Although the factory management made church attendance mandatory, religion was a very important part of life then, and most of the young women would have attended church weekly, and prayer meetings and church-related activities might occupy their free time.

There were "self improvement circles" and lending libraries; itinerant teachers would set up singing schools and teach for a period before moving on to the next town. Fisk's Academy in Lowell taught evening classes in penmanship, drawing, painting, arithmetic, bookkeeping, and music.

Susan Brown heard lectures: several of these were Temperance lectures at City Hall, and anti-slavery lectures. In theory, many New Englanders supported the abolition of slavery, although the cotton textile industry was based on a crop grown by slave labor, with some factories manufacturing "slave cloth," a coarse cotton fabric that would be sent South to clothe slaves. Susan attended two lectures on geology, illustrated by pictures (possibly magic lantern slides) of recently discovered fossils **(see back cover)**. Such discoveries were beginning to raise questions about the age of the earth, and about the story of creation as written in the Bible.

The lyceum movement of the 1840s promoted these public lectures as wholesome leisure activities.[12] Lecturers were often brought in from outside the community to speak. Attendance at lectures was encouraged, and overseers sometimes allowed workers to leave early to hear them; permission to leave early to attend other amusements might be granted, but the workers' pay would be docked. The Lowell Institute in 1845 sold 1200 subscriptions for a lecture series at City Hall for seventy-five cents each; two-thirds of the lyceum audiences in Lowell were mill girls. One speaker reported that most of his attentive audience took notes during the lecture. On the other hand, one young woman wrote that, after a long workday, it was all that she could do to stay awake to hear the lecture, and that the buzzing in her ears from noise of the looms could make it impossible for her to hear the speaker. And there were reports in newspapers of lectures disrupted by young men and women talking, flirting, and engaging in other bad conduct in the gallery.

There were concerts at Mechanics Hall: in April, Susan Brown heard the Hutchinson Singers, and in May a Mr. Russell, a concert singer. A Mr. Sunderland also appeared at Mechanic's Hall, speaking on mesmerism (hypnotism): trances and sleepwalking demonstrations were promised. She saw the "Reformed Drunkard's Comedy", presented at City Hall by the Robinson company, a troupe of traveling actors who presented temperance dramas throughout New England.

She also saw the *Conflagration of Moscow*, advertised as a "grand panoramic view of the conflagration of Moscow," a "magnificent spectacle" with ventriloquist Jonathan Harrington of Boston. Inspired by an earlier "Conflagration of Moscow" by Johann Nepomuk Maelzel, this show traveled widely though the United States between 1835 and at least 1868. Rows of mechanical figures marched before a painting of the city of Moscow, to the sound of drums, martial music, and musketry fire. Dioramic effects showed the burning of the city, and buildings with hinged spires or domes toppled into the flames. The Conflagration reportedly took about 45 minutes, and was the conclusion of the evening's entertainment. Mr. Harrington had at-

tempted to sell the Conflagration, along with the contents of his "museum" in Boston, in 1842, but seems to have instead sent the show out with a series of magicians and ventriloquists through the years. A distinctive woodcut was associated with this exhibition, and appears in much of the advertising.[13]

The Conflagration of Moscow appeared at the Lowell Museum in April and May of 1843, returning in 1849 with Mr. Young, the Wonderful Necromancer. In April of 1853, the diorama was back in Lowell at Merrimack Hall, with Prof. Taylor, the Great Oriental Magician. After traveling on to Bangor, Maine's Market Hall, the show returned to Lowell's Museum, with Mr. Gallagher as the ventriloquist. A 25-cent ticket admitted two persons in Lowell, but only one for the Bangor exhibitions. Later, magic lantern slides seem to have been added to the evening's entertainment. The exhibition regularly appeared in Bangor, Maine before or after visits to Lowell.

AMUSEMENTS.

LOWELL MUSEUM.

GREAT ATTRACTION!

THIS EVENING,

And every evening during the week, will be presented the following novelty:

YOUNG'S MAGNIFICENT DIORAMA OF THE

CONFLAGRATION OF MOSCOW!

Together with the extraordinary performance of

MR YOUNG,

THE WONDERFUL NECROMANCER,

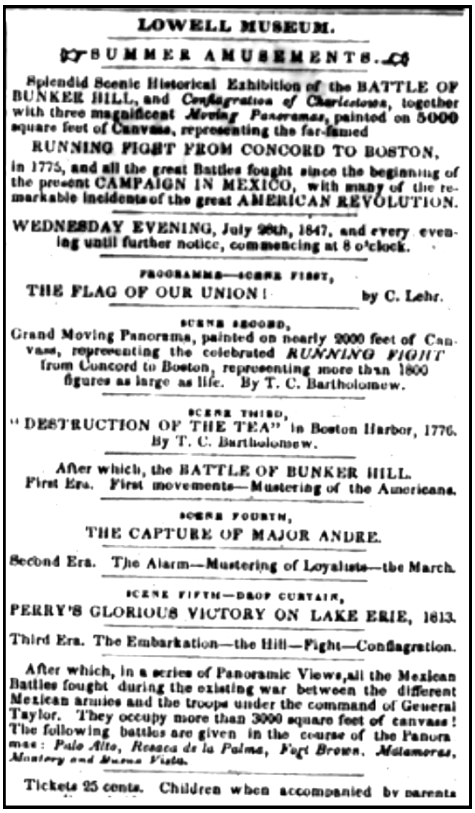
Who will introduce his feats of dexterity after the manner of the Fakirs, Priests, and Wizards of old

☞ Tickets 25 cents. Children when accompanied by parents or guardians half price.

Performance to commence at 8 o'clock precisely.

Lowell Daily Journal & Courier, July 31, 1849. fultonhistory.com/Fulton.html

The Lowell Museum presented another "Conflagration" and mechanical panorama as a summer amusement in 1847. This was Lewis and Bartholomew's *Battle of Bunker Hill and the Conflagration of Charlestown*. Painted on 5,000 square feet of canvas, the show combined a mechanical panorama with articulated, costumed figures moving in front of painted backdrops, and three moving panoramas, including a series of panoramic views of all the Mexican War battles under the command of General Taylor. The show probably took about 30 minutes, with drop scenes shown while battle scenes and machinery were being changed. A storm on the Merrimack River was shown, with sound effects: lightning, thunder, rain, and howling wind. Lowell, "The Manchester of America!" was seen, "In which the factories are seen lighted up as at work. At the ringing of the bells the lights are extinguished and the scene closes." Neighboring towns organized railroad excursions to Lowell to see the exhibition. Lewis and Bartholomew's *Bunker Hill* also had been seen in Providence, Rhode Island in 1845, and appeared in Portland, Bangor, Saco and Biddeford, Maine in the late 1840s. In Portland, a new local drop scene was added, showing a view of that city.[14]



LOWELL MUSEUM.

☞ SUMMER AMUSEMENTS. ☜

Splendid Scenic Historical Exhibition of the BATTLE OF BUNKER HILL, and *Conflagration of Charlestown*, together with three magnificent *Moving Panoramas*, painted on 5000 square feet of Canvas, representing the far-famed

RUNNING FIGHT FROM CONCORD TO BOSTON,

in 1775, and all the great Battles fought since the beginning of the present CAMPAIGN IN MEXICO, with many of the remarkable incidents of the great AMERICAN REVOLUTION.

WEDNESDAY EVENING, July 28th, 1847, and every evening until further notice, commencing at 8 o'clock.

PROGRAMME—SCENE FIRST,

THE FLAG OF OUR UNION! by C. Lehr.

SCENE SECOND,

Grand Moving Panorama, painted on nearly 2000 feet of Canvas, representing the celebrated *RUNNING FIGHT* from Concord to Boston, representing more than 1800 figures as large as life. By T. C. Bartholomew.

SCENE THIRD,

"DESTRUCTION OF THE TEA" in Boston Harbor, 1776. By T. C. Bartholomew.

After which, the BATTLE OF BUNKER HILL.

First Era. First movements—Mustering of the Americans.

SCENE FOURTH,

THE CAPTURE OF MAJOR ANDRE.

Second Era. The Alarm—Mustering of Loyalists—the March.

SCENE FIFTH—DROP CURTAIN,

PERRY'S GLORIOUS VICTORY ON LAKE ERIE, 1813.

Third Era. The Embarkation—the Hill—Fight—Conflagration.

After which, in a series of Panoramic Views, all the Mexican Battles fought during the existing war between the different Mexican armies and the troops under the command of General Taylor. They occupy more than 3000 square feet of canvass! The following battles are given in the course of the Panorama: *Palo Alto, Resaca de la Palma, Fort Brown, Matamoras, Monterey and Buena Vista.*

Tickets 25 cents. Children when accompanied by parents

Lowell Daily Courier, August 10, 1847. fultonhistory.com/Fulton.html

Lowell's Concert Hall presented the "Great Novelty," a "Moral, Rational, & Interesting Exhibition" of *Huntington's Moving Dioramas and Wonderful Italian Fantocinni* or marionettes. This panoramic and dioramic entertainment, advertisements assured readers, had been exhibited for 15 years in all the principal cities of the United States and Europe. The proprietors had enlarged and fitted up the hall for the show, sparing no expense to render it suitable for public patronage. This last claim was a very common one by traveling showmen.

There were certainly other amusements available. There were magic lantern shows: in 1851, "200 Chemical Paintings [...] formerly known as *Whipple's Dissolving Views"* were exhibited at Lowell's City Hall, with a lantern using Drummond Light (limelight). Dissolving views, scenery from America and Europe, and comic slides of "old bachelor's mishaps" were shown to musical accompaniment, and vocalist Mr. Canterbury performed each evening.[15]

Another "chemical" entertainment came to Lowell in 1844, when Robert Winter brought his Chemical Dioramas to Mechanic's Hall. The dioramas, *The Destruction of Babylon*, *Milan Cathedral and Midnight Mass*, *Church of the Holy Sepulchre*, and *Belshazaar's Feast* were, to quote the advertisement, "exhibited by illumination in the style of the celebrated Daguerre of Paris, and produce the wonderful phenomena of two distinct pictures on the same canvas. Each paintings covers a surface of 200 square feet." Winter's dioramas were double-effect dioramas, based on Daguerre's huge paintings that were illuminated from the front, then from the back, to give different effects, and even the illusion of motion. Winter's exhibition had been a huge success in Cincinnati before moving to New York, Boston, and other cities; it continued to tour throughout the United States and Canada until the early 1870s. [16]

Panoramania

Then there were the moving panoramas.[17] The moving, or "peristrephic" panorama first appeared in England in the 1820s, but became so popular in America that this country was often given credit for its invention. Long strips of muslin or canvas 8 to 10 feet high were painted, usually in distemper, and wound on rollers, to be slowly unrolled before an audience, described by a showman often titled a "professor," to the accompaniment of piano or organ music. The famous "three mile" painting of Mississippi River scenery by John Banvard had been tremendously successful in this country in the 1840s, and in Europe, where Banvard had given a "command performance" for Queen Victoria. (The cotton for his panorama was grown "in a Southern clime," as one magazine wrote, and woven into fabric by the Lowell mill girls.)[18] Panoramania gripped the United States, much as cotton mill mania had done earlier, and every artist, theatre scene painter, and sign painter hoped to paint a panorama that would copy the success of Banvard's. One such artist was David Gilmore Blythe, a portrait and genre painter. In 1851 he signed an agreement with friends who were to fund the panorama he would paint, the *Great Moving Panorama of the Allegheny Mountains*. This would be shown in Philadelphia and New York, and through advertising acquire the notoriety that would enable it to be taken to London, where a fortune would be acquired quickly and easily. Things did not go according to that plan: although the panorama received lukewarm to enthusiastic reception from audiences, it was competing against numerous other entertainments at the time. When Blythe himself insisted on doing the narration in Pittsburgh, he did poorly. The panorama was put into storage, and never traveled to London.[19]

Many very bad panoramas were painted, and the moving panorama became an object of ridicule. Author Charles Dickens, after seeing a panorama described by a pedantic lecturer wrote, "I systematically shun pictorial entertainment on rollers." An article in *The Critic* wrote of moving panoramas: "The word is apt to suggest the old-fashioned paintings, wound on two drums, which pass in procession, to the music of a barrel-organ, before the eyes of yokels." The *Brooklyn Eagle* in August of 1852 described a panorama shown in the Brooklyn Museum as "one of the most execrable daubs ever witnessed: the paintings on a common window blind are the highest profection [sic] of art compared with the undistinguishable plaster of this nameless panorama. We should wish to see our citizens patronize any respectable public entertainment presented to them, but the exhibition of a thing like this is unpardonable, and must displease every person who witnesses it. The artist who painted that panorama ought to paint another and then be hanged."

A Pennsylvania newspaper, *The Columbia Spy*, printed an anecdote in December of 1875: 'NO!—A gentleman writing from Frederick City, Md., wants to know if the present would be a favorable time for a good panorama, and whether we have the small pox in town. To both inquiries we replied, "No!" We might get over the small pox, but a panorama just now would be too much.'

Showman Artemus Ward was a great success when he delineated his deliberately bad panorama, keeping his deadpan delivery no matter how much his audience laughed: the panorama stuck, the moon appeared at the wrong time, a prairie fire relit itself

in the wrong scene. No wonder that the pamphlets printed to be sold at panorama shows often assured viewers that this painting was no "mere distempered daub," but an exhibition that could be considered a work of art, and one that had been seen by large numbers of people in large cities.

Moving panoramas showed views of other cities and other countries, allowing viewers to "travel" without leaving home. Bayne's *Gigantic Panorama of a Voyage to Europe* was first shown in Boston in December of 1847 and was on view for 11 months before traveling to Lowell and Salem, Massachusetts, and Portland, Maine. The printed pamphlet for the panorama stated that thousands had seen the show.

Hudson's Great National Painting, showing 1400 miles of scenery along the Ohio and Mississippi rivers, appeared at Lowell's Wentworth Hall for two months from December 1848 through February 1849. Two copies of this panorama had been painted, in order that they might be exhibited in more than one venue at once. Before being taken to Europe, it appeared in Portland, Augusta, and Bangor, Maine.

In April of 1849, the *Lowell Daily Journal and Courier* told readers of *The Panorama of the Gold Regions of Californi*a, which was to open at Wentworth Hall. Since the discovery of gold in California, there was great interest in that region, and numerous panoramas painted to take advantage of this. If one was not interested in the gold regions, there was a concert at Mechanic's Hall by a violinist who had appeared with famed Norwegian violinist, Ole Bull. Mr. Dodge, a comical vocalist, was to appear at City Hall the next evening, and the Saxonian Band was to appear at Appleton Hall.

Panoramas reported on the events of the day: the search for British polar explorer Sir John Franklin, and the explorations of American explorer Elisha Kent Kane were very popular subjects. A panorama of Dr. Kane's Arctic Expedition was shown in Lowell in March of 1859, after sixteen weeks in Boston. A Mr. Brooks, "of whom Dr. Kane speaks so often, and in such high terms", and Myouk, the famous Esquimaux dog, appeared with the panorama.

The Grand Moving Mirror of Slavery, showing the slave trade and the conditions of Southern slaves, and produced for escaped slave Henry "Box" Brown, toured New England in 1850 and 1858, by which time the panorama was owned by two men of Lewiston, Maine.

Biblical subjects were popular: *Pratt's Grand Serial Panorama of A Walk in the Garden of Eden with Adam and Eve*, "a rare production of art," according to the newspaper advertisement, was shown at Lowell's Mechanic's Hall in 1839. A decade later, Haniington's *Grand Exhibition of Sacred Dioramas* (not panoramas) was shown at Wentworth Hall. The Haningtons had worked with Barnum in New York and their Sacred Dioramas had traveled around the country. Note that the advertising specifies that these are <u>not</u> panoramas. The first part of the exhibition showed six days of creation, one by one. The second part showed the Grand Diorama of the Deluge, and advertising assured viewers that the dioramas were pleasing, rational entertainment, and a useful means of moral instruction. After the dioramas were destroyed by fire later that year, the Haningtons must have recreated them, for they were shown in 1851 at Waldo Hall in Worcester, Massachusetts, along with a panorama of the Hudson River, painted by S.A. Hudson.

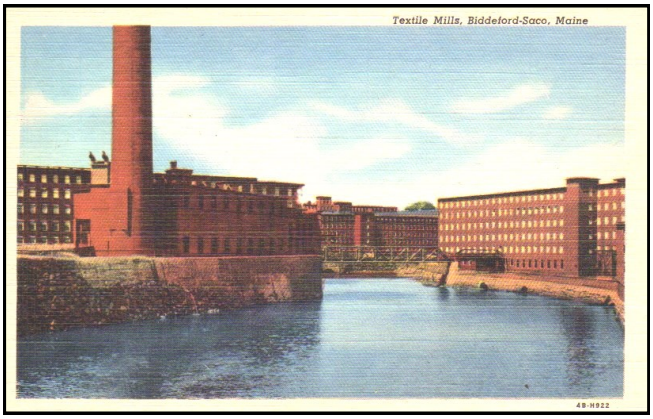
The *Pilgrim's Progress*, or *The splendid Moving Mirror of the Bunyan Tableaux*, differed from many other moving panoramas. It illustrated John Bunyan's *Pilgrim's Progress*, a 17th century allegory with which most of its viewers would have been familiar; the audience might also have been familiar with black and white illustrations from the book, which, due to the religious revival in the early 19th century, had appeared in many illustrated editions. Now they could see "the story in color" and in motion.

Unlike most other panoramas, the *Pilgrim's Progress* could claim a connection to "high" art: it was painted by well-known painters Edward May and Joseph Kyle, both members of the National Academy of Design. Kyle had painted at least nine panoramas. May and Kyle solicited designs for scenes for the panorama from fellow artists, and painters Daniel Huntington, Frederic Church, Jacob Cropsey, Felix Darley, Jacob Dallas and Peter Duggan all contributed. [20]

The *Pilgrim's Progress* was a huge success: after opening in New York's Washington Hall in November, 1850, it was exhibited to full houses for six months. It moved through Hartford, Providence, and Boston, among other cities. Providence, Rhode Island, was a city of textile mills, and those workers may have seen the panorama. A second version was painted to tour different areas of the country while the original continued to travel, visiting Biddeford, Maine in 1858. When the panorama came to Lowell's Mechanic's Hall in April, 1859, it had never before been exhibited there. The Lowell *Journal and Courier* printed an article detailing the artists involved, and the designs each had contributed. Robert J. Greenwood, the manager and proprietor of the panorama, advertised the painting as "one of the Largest Panoramas in the world" and a "sublime and

unique work of art." Admission was 25 cents for adults, 15 cents for Children. Doors would open at 7, and the Mirror would move at 7 ½ o'clock precisely. The exhibition is supposed to have taken two hours: perhaps the earlier starting time allowed the audience to return to their boarding houses before the 10pm curfew?

The initial advertising for the panorama advised that it would be in Lowell for a short season beginning April 14th, but its stay was extended. On April 30th, the Lowell *Journal and Courier* printed a letter from several citizens requesting that Mr. Greenwood continue his exhibition for another week, reducing the price of admission to 15 cents. They wrote, "It has been our high privilege to witness your beautiful Bunyan Tableaux of the Pilgrim's Progress. We do not hesitate to say, that it is by far the finest panorama ever exhibited in our city—It furnished for us an entertainment at once pleasing and instructive." Mr. Greenwood's reply was printed below their letter: he agreed, of course, to continue the exhibition, and reduce admission. "It is evident that you see in the Bunyan Tableaux something more than an ordinary exhibition for gain. I must be frank to admit that the grand object I have in exhibiting them, is the profits that may arise therefrom, but I also speak equally true when I say that I do all in my power to turn the exhibition to some little advantage to every christian [sic] who may see it, and to every community that I may visit with it."[21] Given the number of people employed in Lowell's textile mills, audiences must have contained many mill girls and other workers, but how many attended is unknown.



Biddeford-Saco, Maine, textile mills. Author's collection

The Civil War affected the textile industry: as secession by the South began to seem inevitable, mill owners had to guess whether a long or short war would result; any war would cut off their supply of cotton. Most did not stock up on raw cotton: Lowell mills sold their "surplus" cotton for a high price. Many mills shut down, and an estimated 10,000 people were put out of work. The partners in Lewiston, Maine, however, bet on a long war and bought enormous stocks of raw cotton from the record crops of the pre-war years. During the war, they turned out tent fabric, knapsacks, and uniform parts. Woolen mills fared better, often working at full capacity to turn out cloth for uniforms.

Moving panoramas continued to travel through the North and the South during the years of the Civil War, many promising audiences views of battles that they had just read about. 1861 brought *Bishop's Mammoth Exhibition of the War* to Lowell's Huntington Hall. "The paintings are acknowledged the best ever put on canvas; they are up to and include Fort Donelson [sic]. This last scene is the largest, and cost more than any panoramic scene ever exhibited." The entertainment consisted of panoramas, dioramas, dioptics, music, &c.

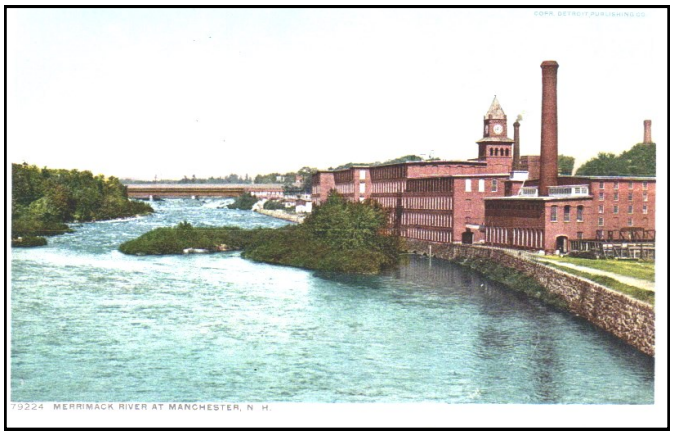
Hubbard's Pantoscope presented another current event to audiences: *The Journey of the Prince of Wales Through America!* was shown at Huntington Hall, for an admission of 15 cents. 1862 brought a panorama painted by the Pearson brothers, formerly Lowell residents. A "correct view" of the engagement between the *Monitor* and *Merrimack* was promised.

By this time, the workforce in New England's textile mills was changing. As early as 1836, the Lowell mill girls had protested an announced wage reduction with a "turn out," and many left their work. The owners did not budge, and the workers returned to their machines. There was agitation for a reduction of hours in the 1840s, with workers petitioning for a 10-hour day: they did not get it. Gradually the Irish, who had dug the canals of Lowell and other cities, began to replace the Yankee women in the mills. After the Civil War, French Canadians from Quebec joined the Irish; other ethnic groups and nationalities followed.[22]

The mill girls are long gone now, but many red brick mill buildings survive in New England, though few now have anything to do with textiles. The moving panoramas and magic lantern shows the mill girls watched have also disappeared, with a very few exceptions. The *Pilgrim's Progress* panorama is a rare survivor, rediscovered in the Saco Museum's storage basement in 1996 when two huge rolls of canvas were opened. A 2009 grant enabled the conservation and restoration of the panorama, and the creation of a digital copy. In 2012 the panorama's digital replica was "performed" before audiences with musical accompaniment and a narrator, and the panorama itself-800 feet long-put on exhibition-in a former textile mill in Biddeford, Maine.[23]

Pilgrim's Progress panorama in Biddeford, Maine, displayed in a former textile mill, 2012. Author's photo.

Suzanne Wray is an independent researcher, member of the Magic Lantern Society of the United States and Canada and the International Panorama Council. From 1974 to 1987, she was a sweater designer for a company with a knitting mill in Manchester, NH. She traveled almost weekly from New York to work at the mill, located in a red brick building with "1850" carved above the door (the building with the clocktower in the postcard below); it was one of many similar buildings in the millyard. She asked her co-workers about the building, and learned that it was once part of Amoskeag Manufacturing, once the largest cotton mill in the world. She began research into the history of New England textile industry, and joined the Society for Industrial Archeology. All of this led (it's a long story) to her interest in 19th century "optical entertainments."



Amoskeag Mills, Manchester, NH. Author's collection.

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2. Peter C. Baldwin. 2012. *In the Watches of the Night: Life in the Nocturnal City, 1820-1930* (The University of Chicago Press, Chicago IL), pp. 36-43.

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5. Baldwin (see note 2), p. 35, 38.

6. Josephson (see note 3), pp. 88-89

7. Nathaniel Hawthorne. 1900. *Passages from the American Note -Books* (Houghton Mifflin Company, Boston and New York), p. 198.

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9. *Lowell Daily Courier*, January 10, 1846, fultonhistory.com/Fulton.html

10. John Fallon was a dye chemist who eventually became superintendent of Pacific Mills. Among other things, he was in charge of the mill lending library for workers (many of whom could not read) and stocked it with a wide range of books. He brought a magic lantern with him from England, which was the first to be known as a "stereopticon." He apparently did not often exhibit it himself, but farmed it out to several exhibitors, who showed it in mill towns like Lawrence and Lowell and other cities in the Northeast. See: Kentwood D. Wells. 2011. The stereopticon men: on the road with John Fallon's stereopticon, 1860-1870. *The Magic Lantern Gazette* 23 (3):2-35.

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15. *Lowell Daily Courier*, September, 1851, fultonhistory.com/Fulton.html. Whipple's show also presented chromatropes and mechanical slides which added motion to the images, as well as demonstrations of the oxyhydrogen microscope. See: Sally Pierce. 2003. Whipple's dissolving views. *The Daguerrian Annual* 2002-2003:277-296. For Whipple's exhibitions of the oxyhydrogen microscope, see: Kentwood D. Wells. 2017. Fleas the size of elephants: the wonders of the oxyhydrogen microscope. *The*

Magic Lantern Gazette 29 (2/3) (Summer/Fall 2017):3-34.

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23. Jessica Skwire Routhier, Kevin J. Avery, & Thomas Hardiman, Jr. 2015. *The Painters' Panorama, Narrative, Art, and Faith in the Moving Panorama of Pilgrims' Progress* (University Press of New England, Hanover NH).

Stereoview of Huntington Hall, Lowell, MA, a frequent venue for entertainments for local mill workers. These included moving panoramas and exhibitions of John Fallon's Stereopticon in the 1860s. New York Public Library

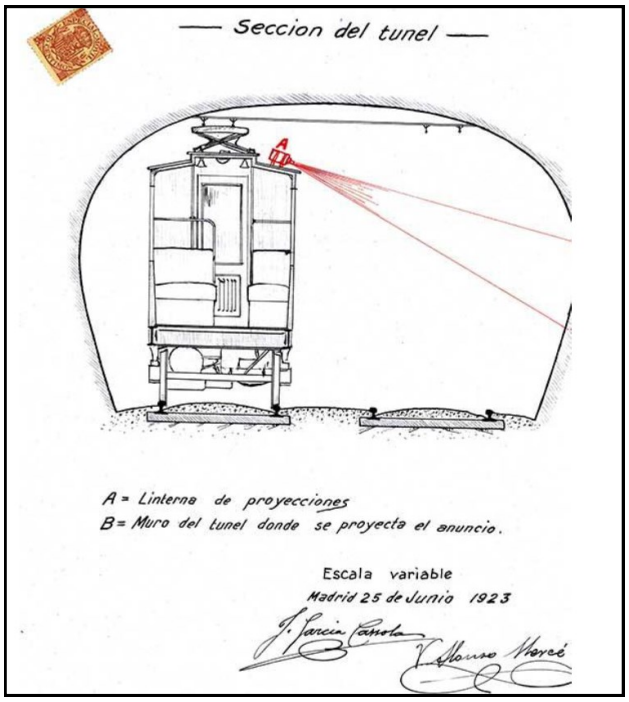
The Research Page presents summaries of recent academic research on topics related to the magic lantern. For a comprehensive bibliography of research articles, see: https://www.zotero.org/groups/magic_lantern_research_group

Francisco Javier Frutos Esteban, Carmen López San Segundo, Daniel Pitarch Fernández, and Angel Quintana Morraja. 2018. Media archeology and magic lantern slides. *Fonseca. Journal of Communication* no. 16:p. 7-9.
https://doi.org/10.14201/fjc20181679

This short paper introduces a special feature on magic lantern slides in the Spanish journal *Fonseca*. The articles are products of collaborative research projects among several European universities and are available in both Spanish and English. The journal is an open access journal, so articles are freely available to the public. Most of the articles are aimed at an academic audience, but several will be of general interest to magic lantern enthusiasts. There is a strong emphasis on the use of magic lantern slides for educational purposes, especially in Spain.

María Begoña Sánchez Galán. 2018. The magic lantern as a means of advertising. Historical review of news, anecdotes and patents. *Fonseca* no. 16:11-30. https://doi.org/10.14201/fjc2018161130en

This article examines the use of magic lantern projections mostly for outdoor advertising from about 1868 to 1920. Advertising slides used in movie theaters are briefly mentioned, but deliberately not covered in detail. Although the author is Spanish, she finds that use of the magic lantern for advertising was less common in Spain than in the United States, Britain, and France. Using newspaper accounts, traveler's anecdotes, and Spanish patent records, the author provides a chronological survey of projected images in advertising from the beginning of widespread availability of limelight lanterns to the era of motion pictures. Images were projected on large outdoor screens and sheets hung from buildings, the sides of buildings, and even clouds. Some advertising involved projection of simple still images, but sometimes changing advertising slides were integrated into magic lantern shows that included stories and amusing images to hold the attention of the audience. Illustrations include a number of proposed projection devices taken from the Spanish patent archives. One unrealized scheme involved projection of images from the top of a moving train onto the walls of railroad tunnels. This proved to be impractical because of the speed of the train and illumination of the tunnel.


— Seccion del tunel —
A = Linterna de proyecciones
B = Muro del tunel donde se proyecta el anuncio.
Escala variable
Madrid 25 de Junio 1923

Proposed system for projecting lantern slides onto the side of a train tunnel.

Carmen López San Segundo, González de Garay Domínguez, Francisco Javier Frutos Esteban, and Manuela Carmona García. 2018. The projection of images in the Spanish secondary school classrooms in the first third of the 20th century. *Fonseca* no. 16:31-45. https://doi.org/10.14201/fjc2018163145en

This paper examines the use of lantern slides in Spanish secondary schools in the early 20th century, based on a quantitative analysis of the contents of a representative collection of educational slides. The distribution of such slides was a big business in Spain and western Europe in general, with one supplier issuing a catalog more than 1200 pages long, in two volumes. Much of the article is devoted to a detailed description of methods used in the study. The basic findings are summarized in several graphs. The vast majority of slides illustrated lectures in the natural and exact sciences, with botany heavily respresented. In the humanities, fine arts and history were the most common subjects. About two-thirds of the slides in the collection originated in France, with the rest mostly from Spain and Germany. Somewhat surprisingly, about two-thirds of the slides were taken from drawings and diagrams, with the rest being photographs of plants, animals, microscope slides, and other objects.

Frank Kessler and Sabine Lenk. 2018. "...to not only tell, but also to show, to show plenty..." The magic lantern as a teaching tool in art history around 1900. *Fonseca* no. 16:46-58. https://doi.org/10.14201/fjc2018164658en

Along with travel and religious slides, some of the most common lantern slides offered for sale are those illustrating art history. This is due to the acquisition of vast numbers of art slides by schools, colleges, universities, and museums in the late 19th and early 20th centuries. In the mid-20th century, lantern slides, most of which were black and white, were supplanted by 35 mm color slides. Since glass slides are heavy and take up a lot of space, all too many institutions discarded their lantern slide collections before their value as cultural artefacts was generally recognized. The authors of this paper use existing lantern slide collections and contemporary accounts to examine the use of such slides in teaching art history in the years around 1900. Their focus is mainly on Germany and places the use of lantern slides in teaching art history in a broader context of German educational reform and increased use of visual aids, particularly projected images, in education in many fields. Some prominent German art historians went beyond using slides as a complement to academic lectures, turning their lectures into visual performances. The authors also discuss the role of various distributors of lantern equipment and slides in facilitating the use of the magic lantern in art history teaching. Some dealers offered comprehensive collections of paintings of famous artists that otherwise could be seen only by visiting museums throughout Europe.

Ine van Dooern and Sarah Dellmann. 2018. Representations of the extraordinary human body: making sense of the Nuttall Collection of lantern slides. *Fonseca* no. 16:61-79. https://doi.org/10.14201/fjc2018166179

Slide of a man suffering from pellagra, a disease caused by a lack of vitamin B_3. Similar images can be found today on many medical websites.

This article examines a set of 133 medically-related lantern slides assembled by G. H. F. Nuttall and used for teaching Tropical Medicine and Hygiene at Cambridge University from 1903 to 1931. Ine Van Dooren first describes the slides, most of which depict people afflicted by various diseases, along with conditions that might favor diseases (for example, wet areas used by breeding mosquitos). Sarah Dellmann then puts these images in broader context of representations of what she terms "extraordinary bodies" in lantern slides and other media such as *Cartes de visite* photographs and "freak shows." She even includes a toy magic lantern slide showing people with long noses, just one of many types of lantern slides of grotesque human faces that have been around since the invention of the magic lantern.

Toy magic lantern slide with comic figures with elongated noses.

Daniel Pitarch. 2018. "To transform the blackboard into a blank screen": magic lanterns and phantasmagorias in nineteenth-century Spanish secondary schools. *Fonseca* no. 16:81-102.
https://doi.org/10.14201/fjc201816811102cn

Although we tend to think of the phantasmagoria as a phenomenon of the first couple of decades of the 19th century, this paper and the one that follows show that in Spain, phantasmagoria lanterns were being sold and used for public entertainment and educational purposes much later in the century. One of the most important magic lantern discoveries of recent decades is a phantasmagoria lantern from the secondary school of Girona, now on display in the Cinema Museum in that city.

The Girona phantasmagoria lantern is equipped for rear-screen projection of glass slides and solid objects such as small busts and sculptures (megascope function). It was purchased by the school around 1849 and may have been used for decades after that.

Archival records have revealed that at least seven other Spanish cities had similar phantasmagoria lanterns, some of which were purchased in the 1850s and 1860s, but presumably used for a long time. None of these instruments is known to have survived. In most cases, magic lanterns were distinguished from the phantasmagoria in equipment records, suggesting that schools often purchased several kinds of projection devices. The schools also had solar microscopes available for projection of microscopic specimens. One French instrument maker was offering solar microscopes along with gas (oxyhydrogen) microscopes in 1853. Slides used in secondary schools included painted astronomy slides, some with motion effects, nearly identical to those available since the early 19th century, as well as later standard photographic slides.

Cèlia Cuenca Córcoles. 2018. The magic lantern in Barcelona: the phantasmagoria shows of the optician Francesc Dalmau (1844-1848). *Fonseca* no. 16:103-116.
https://doi.org/10.14201/fjc201816103117

This interesting article uses newspaper accounts and other archival sources to reconstruct the magic lantern culture of Barcelona in the first half of the 19th century. Magic lantern shows and phantasmagoria exhibitions were fairly common through the 1820s, with one of the originators of the phantasmagoria, Robertson, visiting in the 1820s. There was something of a hiatus in the 1830s, but interest in such shows was revived in the 1840s with phantasmagoria shows presented at the optical shop of Francesc Dalmau. Newspapers of the time provided detailed reviews of his shows, allowing the author to reconstruct how audiences experienced them. The slides used in Dalmau's phantasmagoria resembled those used by Robertson. Music was included in the shows, and in 1845, Dalmau presented slides showing scenes from a popular opera, *Robert le diable*. Dalmau also introduced dissolving views into his presentations, putting him in competition with a French showman, Mr. Robin, who brought a complete show of dissolving views from Paris in 1845. Overall, this article adds considerably to our knowledge of magic lantern practice in the first decades of the 19th century.

Joe Kember and Richard Crangle. 2018. Folk like us: emotional movement from the screen and the platform in British life model lantern slide sets 1880-1910. *Fonseca* no. 16:115-133.
https://doi.org/10.14201/fjc201816115133

In the final article in the special feature on the magic lantern, Kember and Crangle move from the focus on Spain to the use of Life Model slides in British magic lantern shows in the late 19th century. They draw on slide sets included in the Lucerna Magic Lantern Web

Resource, compiled mostly by Richard Crangle, and a large digital newspaper database from southwestern England compiled by Joe Kember. They use these resources and others, including published lanter readings, to analyze the role of Life Model slides, which featured photographs of real people in dramatic poses, in magic lantern practice. A popular set, *For the Master's Sake*, is used as a key example of how such sets were employed in church and missionary services and lectures to convey moral lessons. This set is particularly useful because complete sets of the slides exist and can be examined in detail, along with published readings, and there are many local newspaper reviews of lantern shows using this set. The latter provide information on the variety of ways the set was used (in lectures without music, in church services with slides interspersed with hymns, or in hymn services with a selecton of slides shown at the end of the program). The newspaper accounts also provide evidence for audience reactions to the slides. The authors discuss many aspects of slide composition and posing of models for dramatic effect, too numerous to mention in detail here. They also argue that the use of ordinary people as photographic models, rather than professional actors, enhanced the appeal of the slides to audiences who could relate to scenes featuring "folk like us." The article is a prime example of the new era of magic lantern research made possible by digital databases that greatly extend the reach of modern scholars.

Melodramatic gestures and frozen movement in a slide from *For the Master's Sake*.

Emily Hayes. 2018. Geographical light: the magic lantern, the reform of the Royal Geographical Society and the professionalization of geography c. 1885-1894. *Journal of Historical Geography* 62:24-36.

To someone who has spent an entire career working in a science department, the notion that anyone would deliver a scientific lecture to an academic or general audience without some form of projected visual aids seems absurd. Yet in the mid-1880s, when geographers in Britain were struggling to have their field recognized as legitimate science, and not simply a collection of traveler's tales, there was significant controversy within the Royal Geographical Society over the use of the magic lantern. Opponents feared that use of the magic lantern would turn serious lectures into Sunday school sermons or public entertainments, whereas proponents of the lantern saw this technology as part of a general reform of geographical education. Clearly the magic lantern camp won out in the end, but the introduction of the magic lantern into geography took longer than one might expect. Emily Hayes tells this interesting story in some detail in a richly researched article that focuses on several key lectures and lecturers that tipped the balance of opinion in favor of the lantern. In the process, she provides a new look into magic lantern practice in 19th century Britain and reveals many little known facts. Did you know, for example, that Francis Galton, a cousin of Charles Darwin, better known for his work on eugenics and his idea that fingerprints could be used to identify individuals, was an early advocate for the use of the lantern in geography? Not only that, he also used multiple lanterns to superimpose photographs of faces to produce composite photographic portraits. Overall, this article makes a major contribution to magic lantern scholarship in a journal not normally seen by most readers of the *Gazette* or magic lantern scholars in general.

Lantern slide of mountains in the Central Caucasus region used in an 1888 lecture by Doughlas Freshfield, a key figure in promoting the use of the magic lantern at the Royal Geographical Society.

Dr. Greene's Grand Free Illustrated Lectures

Kentwood D. Wells
451 Middle Turnpike
Storrs CT 06268
kentwood.wells @uconn.edu

Throughout the 1880s and 1890s, newspapers in Boston and New York, as well as smaller cities such as Worcester, Massachusetts; Trenton, New Jersey; and Baltimore, Maryland were filled with announcements for free stereopticon lectures given by a Dr. Greene. The main topic was the nervous system and its diseases, which included everything from sleeplessness and mood swings to epilepsy and stroke. Dr. Greene added a number of other topics to his repertoire, most notably "free private illustrated lectures for women only" and "free private illustrated lectures for men only (no boys allowed)." These descriptions were code words for lectures on sex education, which were relatively common in that era, often discretely named "human physiology" or "practical physiology." After the discovery of x-rays in 1895, Dr. Greene added x-ray demonstrations to his lectures.[1]

Dr. Greene also appended purely entertaining lantern slides to the end of his lectures, including travel views, dissolving views, and motion slides. These covered a range of topics, including Arctic exploration, astronomy, the eruption of Mt. Vesuvius, Pompeii, water mills in motion, the rising moon, etc. In 1888, Dr. Greene presented a new travel lecture on "From Alaska to Mexico" in Baltimore's Concert Hall.[2]

Newspaper announcements of his lectures, which mostly seem to have been written by Dr. Greene himself, used extravagant language to describe his visual aids and his lectures in general. An announcement in a Boston newspaper in 1892 proclaimed that he presented the **"Most Magnificent Dissolving Views Seen in this City,"** a dubious claim given that dissolving views had been seen in Boston for more than 40 years.[3] A lengthy announcement in the *New York Tribune* in 1897 pronounced Dr. Greene "the leading physician of America, if not the world."[4] This language, along with descriptions of his lectures as "soul-stirring" and claims that he attracted the largest crowds ever assembled in venues such as Boston's Music Hall and New York's Chickering Hall, appear to have been an exercise in self-aggrandizement.

Fig. 1. Dr. J. Alonzo Greene (1845-1917). University of New Hampshire.

Newspaper announcements of Dr. Greene's lectures never mentioned his first name, presumably on the assumption that he already was well known to the public. He was in fact Dr. J. Alonzo Greene (Fig. 1), who was born in Vermont and after living in various parts of the country, eventually became one of New Hampshire's most distinguished citizens. A biographical sketch published in a New Hampshire magazine in 1896 provides a basic outline of his life, although expressed with such effusive praise of his virtues as a physician, lecturer, businessman, and citizen that not everything can be taken at face value.[5]

With the outbreak of the Civil War, the teenage Alonzo attempted to enlist in the army in Massachusetts until his father arrived to fetch him back home. He promptly left for the West, enlisting in a calvalry unit in Colorado, where he ended up fighting Indians more than Confederates. In 1864, he was wounded at the Battle of Sand Creek, otherwise known as the Sand Creek Massacre, in which a unit of more than 600 Colorado volunteers killed dozens of Cheyanne and Arapaho men, women, and children.[6]

After the war, Alonzo enrolled in the Eclectic Medical Institute in Cincinnati, an institution that taught the use of plant extracts as medicines.[7] He graduated in 1867 and later joined his father's medical practice at 34 Temple Place in Boston, the same address he used as his own office in later years. When he and his physician brother Frank bought out their father's interest in the practice, their father let them in on a secret formula for a tonic said to be "a great brain and nerve invigorant," and a wonderous cure for nearly every known nervous disease. This gave rise to Dr. Greene's Nervura (Fig. 2), an elixir composed of extracts of various plants, including celery and ginger, combined with a healthy dose of alcohol (about 18% by volume).[8]

Fig. 2. Pamphlet advertising Dr. Greene's Nervura and another of his remedies. http://weirsbeach.com/reasons-to-visit/nightlife/prohibition-in-weirs-beach/nervura/

Dr. Greene's Nervura undoubtedly was largely worthless as a medicinal treatment, but in an era when all sorts of patent medicines flooded the market, his elixir was a best seller, and the Greene brothers became wealthy from the proceeds of their sales. Alonzo Greene eventually abandoned regular medical practice to devote full time to marketing Nervura and other nostrums, while his brother took charge of the business of manufacturing and distributing Nervura. Alonzo bought land on Long Island in New Hampshire's Lake Winnipesaukee and built himself a castle called Roxmont (Fig. 3 & 4). He later bought two adjacent farms and developed a large operation raising fancy breeds of livestock and poultry. He invested in various business ventures in the area, including a ferry service. He even served two years as mayor of Laconia, New Hampshire.

Fig. 3. Roxmont Castle, Dr. Greene's home on Long Island in Lake Winnipesaukee, New Hampshire, 1896.

Fig. 4. The hall of Roxmont Castle.

Although he was characterized as "the leading physician in America, if not the world" by one newspaper, Dr. Greene's real genius was marketing. His free stereopticon lectures, spectacular dissolving views, travel slides, and x-ray demonstrations served as a tease to draw customers into his consulting rooms (consultations also were free), and eventually persuading them to buy his products. These lectures were part of a much more extensive and expensive advertising campaign that included pamphlets (Fig. 2), an almanac, a magazine, and saturation advertising in large city and small town newspapers throughout the country. His biographical sketch in *The Granite Monthly* made the dubious claim that 6,000,000 copies (approximately 15 times the population of New Hampshire) of each issue of his almanac were distributed free, while annual circulation of his free magazine, *The Commonwealth Magazine*, supposedly reached 15,000,000 copies. The article touted the economic benefits to New Hampshire of all of his advertising expenditures: "He pays the Amoskeag Paper company of Manchester . . . over one hundred thousand dollars a year for paper used in his advertising department. He pays the newspapers of New Hampshire between $16,000 and $17,000 for advertising space, and advertises in nearly every newspaper in the United States, and in many foreign newspapers in different countries."[9] Many of his newspaper advertisements included celebrity endorsements from individuals such as Mrs. Henry Ward Beecher, Clara Barton (Head of the Red Cross), and singer Miss Theresa Vaughn, complete with pen and ink sketches of these women.[10]

Despite Dr. Greene's fame as a lecturer, physician, purveyor of miracle cures, and businessman, his exaggerated claims about Nervura occasionally caught up with him. As early as 1885, the Illinois State Board of Health charged him with "unprofessional and dishonorable conduct" in (1) "Falsely and fraudulently claiming to have established 'a system of *curing all forms of chronic or lingering diseases*,' and (2) "Falsely and fraudulently advertising that the Illinois State Board of Health, among other Boards, Colleges, and Medical Societies, had awarded him and his associates 'diplomas for their remarkable skill in curing disease, and their discoveries of valuable remedies."[11]

After President Theodore Roosevelt signed the Pure Food and Drug Act in 1906, the Federal Government took a more active role in regulating patent medicines. In 1915, Alonzo and Frank Greene were charged with misbranding of Dr. Greene's Nervura, having claimed that it cured a host of ailments from poor blood, kidney disease, loss of appetite, and depression to paralysis, epilepsy and St. Vitus Dance. The brothers pleaded no contest to the charges, and each was fined $25. This seems to have had little effect on the enthusiasm displayed by citizens of New Hampshire for Dr. Greene as one of their favorite sons. Even today, we find him mentioned in a book on *Legendary Locals of New Hampshire's Lakes Region*.[12]

Notes and References

1. *Boston Journal*, Oct. 7, 1884, p. 3. (many very similar ads appeared in this paper in 1884 and 1885). *New York Tribune* Feb. 12, 1886, p. 7 (and many similar ads in New York papers). *Trenton Times* Nov. 30, 1886, p. 4. *Baltimore Sun* Apr. 6, 1888, p. 1. *Worcester Daily Spy* Nov. 15. 1888, p. 2. X-rays: *New York American* Mar. 14, 1898, p.11.

2. *Baltimore Sun* (see note 1).

3. *Boston Daily Advertiser* Oct. 4, 1892, p. 5. Sally Pierce. 2003. Whipple's dissolving views. *The Daguerrian Annual* 2002-2003:277-296.

4. *New York Tribune*, Oct. 19, 1897, p. 9.

5. Henry Robinson. 1896. Dr. J. Alonzo Greene. *The Granite Monthly*, vol. 20, pp. 51-63.

6. Robinson (see note 5). https://en.wikipedia.org/wiki/Sand_Creek_massacre.

7. https://en.wikipedia.org/wiki/Eclectic_medicine

8. At 18% by volume, the alcohol content of Dr. Greene's Nervura was at the lower end of the range for patent medicines, some of which had alcohol contents of 50% or more. This made them a target for temperance reform groups such as the Women's Christian Temperance Union. See: Adelaide Hechtlinger. 1970. *The Great Patent Medicine Era* (Galahad Books, New York).

9. Robinson (see note 5).

10. Mrs. Beecher: *Rockland County Messenger* Oct. 22, 1896, p. 2. Clara Barton: *The Sacred Heart Review* Nov. 12, 1898. Theresa Vaughn: *The Sacred Heart Review* Nov. 2, 1895.

11. *Eigth Annual Report of the Board of Health of Illinois*, 1898, p. xxv.

12. U. S. Department of Agriculture, Bureau of Chemistry. 1918. *Service and Regulatory Announcements, Supplement. Notices of Judgments Under the Food and Drugs Act*. 4149. Misbranding of "Dr. Greene's Nervura," p. 239-240 (action taken March 16, 1915). Ray Carbone. 2015. *Legendary Locals of New Hampshire's Lakes Region* (Arcadia Publishing Company, Charleston SC), p. 124.

Front Cover: "Bell Time," an engraving from a drawing by Winslow Homer, shows workers at a New England textile mill going home after a 12-hour workday. In her feature article, Suzanne Wray describes the kinds of amusements available to these working class audiences in the first 70 years of the 19th century, including magic lantern lectures, dissolving views, dioramas, and moving panoramas. The engraving appeared in *Harper's Weekly* for July 5, 1868. Boston Public Library via *Wikimedia.*

Above: "Mill Girl" Susan Brown attended a lecture on geology illustrated with pictures of recently discovered fossil animals. This image shows a view of several marine reptiles, incongruously sitting on rocks out of the water, the type of picture she would have seen at the time. This comes from set of slides used to teach geology at Wooster College in Ohio in the 19th century.

http://woostergeologists.scotblogs.wooster.edu/files/2016/11/1-Teleosaurus-Ichthyosaurus-Pentacrinites-Ammonites-Gryphaea.jpg